

IN THE CLAIMS

1. (currently amended): A method for maintaining a clean surface of a semiconductor substrate, prior to a subsequent wafer processing step involving a temperature of heat treatment, comprising:

washing ~~[[a]]~~ the semiconductor substrate so as to make the surface clean; and

depositing a high molecular straight-chain organic compound, having a boiling point lower than the temperature of heat treatment of the wafer processing of the subsequent step, onto the clean surface of said semiconductor substrate during or after washing of said semiconductor substrate.

2. (original): The semiconductor substrate surface protection method according to claim 1 wherein said high molecular straight-chain organic compound is selected from substances of lower boiling point than 500°C.

3. (original): The semiconductor substrate surface protection method according to claim 1 wherein said high molecular straight-chain organic compound is a compound of a single type.

4. (original): The semiconductor substrate surface protection method according to claim 1 wherein said high molecular straight-chain organic compound is cholesterin ($C_{27}H_{46}O$).

5. (original): The semiconductor substrate surface protection method according to claim 1 wherein said high molecular straight-chain organic compound is behenic acid ($C_{21}H_{43}COOH$).

6. (currently amended): The semiconductor substrate surface protection method according to claim 1 wherein, after deposition of said high molecular straight-chain organic compound onto the clean surface of the semiconductor substrate, said high molecular straight-chain organic compound is further eliminated by the heat treatment temperature.

7. (currently amended): A method for maintaining a clean surface of a semiconductor substrate, prior to a subsequent wafer processing step involving a temperature of heat treatment, comprising:

washing [[a]] the semiconductor substrate so as to make the surface clean; and
depositing a high molecular straight-chain organic compound, having a boiling point lower than the temperature of heat treatment of the wafer processing of the subsequent step, onto the clean surface of said semiconductor substrate by spin coating in which liquid containing the high molecular straight-chain organic compound and pure water is discharged from a spray nozzle while rotating the semiconductor substrate during or after washing of the semiconductor substrate.

8. (original): The semiconductor substrate surface protection method according to claim 7 wherein said high molecular straight-chain organic compound is selected from substances of boiling point lower than 500°C.

9. (original): The semiconductor substrate surface protection method according to claim 7 wherein said high molecular straight-chain organic compound is a compound of a single type.

10. (original): The semiconductor substrate surface protection method according to claim 7 wherein said high molecular straight-chain organic compound is cholesterol ($C_{27}H_{46}O$).

11. (original): The semiconductor substrate surface protection method according to claim 7 wherein said high molecular straight-chain organic compound is behenic acid ($C_{21}H_{43}COOH$).

12. (currently amended): The semiconductor substrate surface protection method according to claim 7 wherein, after deposition of said high molecular straight-chain organic compound onto the clean surface of the semiconductor substrate, said high molecular straight-chain organic compound is further eliminated by the heat treatment temperature.

13.-18. (canceled)

19. (new): The semiconductor substrate surface protection method according to claim 1, wherein the subsequent step includes one of thermal oxidation and reduced pressure CVD.

20. (new): The semiconductor substrate surface protection method according to claim 1, comprising keeping the substrate in a clean room containing ambient organic compounds having a molecular weight lower than that of the high molecular straight-chain organic compound.

21. (new): The semiconductor substrate surface protection method according to claim 7, wherein the subsequent step includes one of thermal oxidation and reduced pressure CVD.

22. (new): The semiconductor substrate surface protection method according to claim 7, comprising keeping the substrate in a clean room containing ambient organic compounds having a molecular weight lower than that of the high molecular straight-chain organic compound.

23. (new): A method of keeping ambient organic compounds in a clean room from adhering to a cleaned semiconductor substrate, comprising

uniformly depositing onto the substrate a straight-chain organic compound having a higher molecular weight than that of the ambient organic compounds, whereby adsorption of the ambient organic compounds is abruptly reduced;

wherein the straight-chain organic compound has a boiling point lower than a temperature of a heat treatment of a wafer-processing subsequent step, whereby the straight-chain organic compound is not left behind as a residue on the substrate.

24. The method according to claim 23, wherein the straight-chain organic compound does not contain unsaturated bonds.

25. The method according to claim 23, wherein the straight-chain organic compound comprises a single straight-chain organic compound.